Gender differences in Facebook self-presentation: An international randomized study

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A R T I C L E   I N F O

A B S T R A C T

Facebook is a popular social network that can be used for self-presentation. In the current study we examined gender differences in Facebook self-presentation by evaluating components of profile and cover photos. We used evolutionary psychology—a theory which holds many assumptions regarding gender differences—to draw hypotheses. In order to eliminate the pitfalls of self-reported data, we analyzed public data presented in Facebook pages of a random representative international sample of 500 Facebook users. As hypothesized, profile photos on Facebook differed according to gender. Males' photos accentuated status (using objects or formal clothing) and risk taking (outdoor settings), while females' photos accentuated familial relations (family photos) and emotional expression (eye contact, smile intensity and lack of sunglasses). Cover photos, however, did not show most of these gender differences, perhaps since they serve only as a supplement to the self-presentation that appears in the profile photos. These findings demonstrate that evolutionary theory rooted in the past can help us understand new social tools of the future.

1. Introduction

Social network sites (SNSs) such as Facebook, Twitter, and LinkedIn, have grown tremendously in recent years ("comScore," 2011). Among these, Facebook has emerged as the most popular website ("Top sites," 2013), with a reported one billion monthly active users, and 655 million daily active users ("Facebook," 2013) uploading 350 million new photos every day (Henschen, 2013). These users present both explicit data of themselves (such as age, gender and marital status) and implicit data (such as photos or degree of disclosure). These data reflect the perceptions, attitudes and behaviors of the users, allowing us to study the psychological mechanisms underlying self-presentation. In this study we investigate gender differences in self-presentation by analyzing implicit data depicted in profile and cover photos. The results of such an investigation bear both theoretical and practical consequences. Theoretically, there is an on-going debate regarding the existence and magnitude of behavioral gender differences (for a recent review see Stewart-Williams & Thomas, 2013). Investigating these differences as they are depicted on Facebook may offer a new perspective, since Facebook users are culturally diverse and their behavior is more naturalistic than that of conventional

samples. Practically, identifying gender differences in self-presentation can assist a number of professionals in making well-informed choices in their websites. Firms, for instance, can improve their employee photos. Marketers can improve the images of their endorsers. Online dating sites can advise their customers how to present themselves on the site. Finally, users of SNSs may improve their choice of profile photo for social and professional self-presentation (Brown & Vaughn, 2011).

1.1. Self-presentation in Facebook

Self-presentation is one of the major motives driving activity in SNSs (Krämer & Winter, 2008). Facebook users can present themselves through explicit declarations, such as their interests or favorite music (Pempek, Yermolayeva, & Calvert, 2009), but they appear to rely more on implicit cues in posted photos (Zhao, Grasmuck, & Martin, 2008). When people evaluate the personality of a Facebook user, they base their impression mostly on the profile photo (Ivcevic & Ambady, 2012). Despite the salience of Facebook profile photos, however, there has been limited research on the topic.

Profile photos have practical implications since their appeal can raise the response rate to friendship requests (Tifferet, Gaziel, & Baram, 2012; Wang, Moon, Kwon, Evans, & Stefanone, 2010). Lately, in addition to the profile photo, Facebook has first enabled

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and later required users to add a cover photo as part of the new Timeline format (Smith, 2012). These two photos allow the users to express and define themselves by projecting two similar or complementary images.

1.2. Gender differences in Facebook self-presentation

While many studies explore gender differences in Facebook users (see Table 1), the data on self-presentation is lacking. In the only study we found that targeted gender differences in Facebook self-presentation, Hum et al. (2011), found no significant gender differences in the number of profile pictures, the level of activity in the photos, the appropriateness of the photos or the number of subjects in them. This gender similarity may have resulted from choosing explorative hypotheses that were not theory-based. For instance, Hum et al. (2011) compared how frequently men and women posted posed photos versus candid photos. Theoretically, there is reason to hypothesize that women may pose differently than men, emphasizing different features (Vigil, 2009), but there is no apparent reason to hypothesize that there would be differences in the frequency of posing. In the current paper, we propose a number of specific hypotheses based on evolutionary psychology, a field with a long-standing history of research on gender differences (e.g., Archer, 1996; Archer, 2004; Bjorklund & Kipp, 1996; Buss, 1989; Schmitt et al., 2003; Wilson & Daly, 1985).

1.3. Evolutionary view of gender differences

Traditionally, gender differences in behavior have been attributed to cultural role expectations (e.g., Eagly, 1987). Evolutionary psychology views gender differences as rooted in genetic variations that arose millions of years ago through natural selection (Buss, 1995). According to evolutionary theory, men and women today have different behaviors since they had to deal with different challenges in the prehistoric past (especially in the fields of parenting and mating). For instance, in comparison to men, women take on a greater share of childcare in hunter-gatherer (Konner, 2005) and other traditional societies (Konner, 2010; Whiting & Edwards, 1988). This suggests that a similar division of labor was present in our ancestral past, and that ancestral women may have adapted traits that were beneficial for childcare. One example is the trait of empathy. A few million years ago, a woman with low levels of empathy may have had less success in raising her children to

adulthood, since she was less sensitive to their needs. This would have lowered her chances to hand down her genes to future generations, including the genes responsible for lower empathy. Since men at that time probably played a smaller role in childrearing than women, their lack of empathy may have been less detrimental to the chances to pass on their genes. In this fashion, natural selection sculpted unique behavioral profiles for men and women. This is not to say that all women have higher empathy levels than men—only that women in average have higher empathy levels than men (Baron-Cohen & Wheelwright, 2004). This also does not suggest that women are better than men, since every trait has tradeoffs, and maternal empathy, for instance, may have a price of increased anxiety and depression (Tifferet, Manor, Constantini, Friedman, & Elizur, 2011).

The design of most studies in the field of gender differences does not allow researchers to determine whether the cause of the difference is social or evolutionary. In most cases both causes are in play—moreover, they interact (e.g., Schmitt, Realo, Voracek, & Allik, 2008). Over recent decades, social explanations for gender differences have increasingly been replaced by explanations that take an evolutionary approach (see for example Archer, 2004; Schmitt et al., 2008). Even Eagly (Eagly & Wood, 2011; Wood & Eagly, 2002) has moved to a more integrative biosocial model. In the field of cyberpsychology, however, the traditional social theory for gender differences still dominates (e.g., Dunn & Guadagno, 2011; Guadagno, Muscanell, Okdie, Burk, & Ward, 2011; Hum et al., 2011; Muscanell & Guadagno, 2012) with very few studies using the evolutionary framework (e.g., McAndrew & Jeong, 2012).

We now propose a number of gender differences in the self-presentation of Facebook users through their profile and cover photos, basing our hypotheses on evolutionary psychology.

1.3.1. Family relations

In comparison to men, women are more orientated towards familial relations, and are considered the keepers of the family (Salmon & Daly, 1996). One explanation of this phenomenon is that evolution has shaped females to be the main caregiver, as is evident in both industrialized (Belsky, Gilstrap, & Rovine, 1984; Lamb, Frodi, Hwang, & Frodi, 1982) and non-industrialized (Whiting & Edwards, 1988) societies. In addition, women have a higher parental confidence than men (Trivers, 1972), which may strengthen their bond to the child (Geary, 2005).

Kosinski, Stillwell, and Graepel (2013) predicted the gender of 58,000 volunteers by analyzing their Facebook Likes. 'Proud to be

Table 1
Studies assessing gender differences in Facebook users.

Study	Research method	Main gender finding
Acar (2008)	Student Survey	In comparison to men, women have more friends and spend more time on SNSs
Bonds-Raacke and Raacke (2010)	Student Survey	In comparison to men, women have less friends and are more likely to set their account to private
Fogel and Nehmad (2009)	Student Survey	Women disclose their phone number and address less than men
Hargittai (2008)	Student Survey	No difference in frequency of Facebook usage
Hum et al. (2011)	Student photo analysis	No difference in profile photos
Kosinski et al. (2013)	Analysis of Likes	Based on their Likes, males and females were correctly classified in 93% of cases
Lewis et al. (2008)	Student network analysis	No difference in network size
McAndrew and Jeong (2012)	International survey	In comparison to men, women spend more time managing their photo impression and in dealing with family photos.
Muscanell and Guadagno (2012)	Student survey	Women maintain relationships, men form new ones
Park, Kee, and Valenzuela (2009)	Student Survey	Women use Facebook for information purposes more than men
Pempek et al. (2009)	Student Survey	Women report having more friends than men
Valenzuela, Park, and Kee (2009)	Student Survey	Women are more likely to have a Facebook profile